SELECTION SYSTEMS FOR GENETICALLY MODIFIED CELLS
DOCKET NO. 24751-2502
Applicant: Jensen
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+3                                                                  M  A  D
 1  CACCGGCGAA GGAGGATCGA ATTCCTGCAG CCCGCTATCT GCAGGCCGCC ACCATGGCCG
    GTGGCCGCTT CCTCCTAGCT TAAGGACGTC GGGCGATAGA CGTCCGGCGG TGGTACCGGC
+3  ·D  Y  L  I  S  G  G  T  S  Y  V  P  D  D  G  L  T  A  Q  Q  L
61  ACTACCTGAT TAGTGGGGGC ACGTCCTACG TGCCAGACGA CGGACTCACA GCACAGCAGC
    TGATGGACTA ATCACCCCCG TGCAGGATGC ACGGTCTGCT GCCTGAGTGT CGTGTCGTCG
+3  ·L  F  N  C  G  D  G  L  T  Y  N  D  F  L  I  L  P  G  Y  I  D
121 TCTTCAACTG CGGAGACGGC CTCACCTACA ATGACTTTCT CATTCTCCCT GGGTACATCG
    AGAAGTTGAC GCCTCTGCCG GAGTGGATGT TACTGAAAGA GTAAGAGGGA CCCATGTAGC
+3  ·D  F  T  A  D  Q  V  D  L  T  S  A  L  T  K  K  I  T  L  K  T
181 ACTTCACTGC AGACCAGGTG GACCTGACTT CTGCTCTGAC CAAGAAAATC ACTCTTAAGA
    TGAAGTGACG TCTGGTCCAC CTGGACTGAA GACGAGACTG GTTCTTTTAG TGAGAATTCT
+3  ·T  P  L  V  S  S  P  M  D  T  V  T  E  A  G  M  A  I  A  M  A
241 CCCCACTGGT TTCCTCTCCC ATGGACACAG TCACAGAGGC TGGGATGGCC ATAGCAATGG
    GGGGTGACCA AAGGAGAGGG TACCTGTGTC AGTGTCTCCG ACCCTACCGG TATCGTTACC
+3  ·A  L  T  G  G  I  G  F  I  H  H  N  C  T  P  E  F  Q  A  N  E
301 CGCTTACAGG CGGTATTGGC TTCATCCACC ACAACTGTAC ACCTGAATTC CAGGCCAATG
    GCGAATGTCC GCCATAACCG AAGTAGGTGG TGTTGACATG TGGACTTAAG GTCCGGTTAC
+3  ·E  V  R  K  V  K  K  Y  E  Q  G  F  I  T  D  P  V  V  L  S  P
361 AAGTTCGGAA AGTGAAGAAA TATGAACAGG GATTCATCAC AGACCCTGTG GTCCTCAGCC
    TTCAAGCCTT TCACTTCTTT ATACTTGTCC CTAAGTAGTG TCTGGGACAC CAGGAGTCGG
+3  ·P  K  D  R  V  R  D  V  F  E  A  K  A  R  H  G  F  C  G  I  P
421 CCAAGGATCG CGTGCGGGAT GTTTTTGAGG CCAAGGCCCG GCATGGTTTC TGCGGTATCC
    GGTTCCTAGC GCACGCCCTA CAAAAACTCC GGTTCCGGGC CGTACCAAAG ACGCCATAGG
+3  ·P  I  T  D  T  G  R  M  G  S  R  L  V  G  I  I  S  S  R  D  I
481 CAATCACAGA CACAGGCCGG ATGGGGAGCC GCTTGGTGGG CATCATCTCC TCCAGGGACA
    GTTAGTGTCT GTGTCCGGCC TACCCCTCGG CGAACCACCC GTAGTAGAGG AGGTCCCTGT
+3  ·I  D  F  L  K  E  E  E  H  D  C  F  L  E  E  I  M  T  K  R  E
541 TTGATTTTCT CAAAGAGGAG GAACATGACT GTTTCTTGGA AGAGATAATG ACAAAGAGGG
    AACTAAAAGA GTTTCTCCTC CTTGTACTGA CAAAGAACCT TCTCTATTAC TGTTTCTCCC
+3  ·E  D  L  V  V  A  P  A  G  I  T  L  K  E  A  N  E  I  L  Q  R
601 AAGACTTGGT GGTAGCCCCT GCAGGCATCA CACTGAAGGA GGCAAATGAA ATTCTGCAGC
    TTCTGAACCA CCATCGGGGA CGTCCGTAGT GTGACTTCCT CCGTTTACTT TAAGACGTCG
+3  ·R  S  K  K  G  K  L  P  I  V  N  E  D  D  E  L  V  A  I  I  A
661 GCAGCAAGAA GGGAAAGTTG CCCATTGTAA ATGAAGATGA TGAGCTTGTG GCCATCATTG
    CGTCGTTCTT CCCTTTCAAC GGGTAACATT TACTTCTACT ACTCGAACAC CGGTAGTAAC
+3  ·A  R  T  D  L  K  K  N  R  D  Y  P  L  A  S  K  D  A  K  K  Q
721 CCCGGACAGA CCTGAACAAC AATCCGGACT ACCCACTAGC CTCCAAAGAT GCCAAGAAAC
    GGGCCTGTCT GGACTTCTTC TTAGCCCTGA TGGGTGATCG GAGGTTTCTA CGGTTCTTTG
+3  ·Q  L  L  C  G  A  A  I  G  T  H  E  D  D  K  Y  R  L  D  L  L
781 AGCTGCTGTG TGGGGCAGCC ATTGGCACTC ATGAGGATGA CAAGTATAGG CTGGACTTGC
    TCGACGACAC ACCCCGTCGG TAACCGTGAG TACTCCTACT GTTCATATCC GACCTGAACG
+3  ·L  A  Q  A  G  V  D  V  V  V  L  D  S  S  Q  G  N  S  I  F  Q
841 TCGCCCAGGC TGGTGTGGAT GTAGTGGTTT TGGACTCTTC CCAGGGAAAT TCCATCTTCC
    AGCGGGTCCG ACCACACCTA CATCACCAAA ACCTGAGAAG GGTCCCTTTA AGGTAGAAGG
+3  ·Q  I  N  M  I  K  Y  I  K  D  K  Y  P  N  L  Q  V  I  G  G  N
901 AGATCAATAT GATCAAGTAC ATCAAAGACA AATACCCTAA TCTCCAAGTC ATTGGAGGCA
    TCTAGTTATA CTAGTTCATG TAGTTTCTGT TTATGGGATT AGAGGTTCAG TAACCTCCGT
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FIG 1A

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+3   N  V  V  T  A  A  Q  A  K  N  L  I  D  A  G  V  D  A  L  R  V
961  ATGTGGTCAC TGCTGCCCAG GCCAAGAACC TCATTGATGC AGGTGTGGAT GCCCTGCGGG
     TACACCAGTG ACGACGGGTC CGGTTCTTGG AGTAACTACG TCCACACCTA CGGGACGCCC
+3   V  G  M  G  S  G  S  I  C  I  I  Q  E  V  L  A  C  G  R  P  Q
1021 TGGGCATGGG AAGTGGCTCC ATCTGCATTA TCCAGGAAGT GCTGGCCTGT GGGCGGCCCC
     ACCCGTACCC TTCACCGAGG TAGACGTAAT AGGTCCTTCA CGACCGGACA CCCGCCGGGG
+3   Q  A  T  A  V  Y  K  V  Y  E  Y  A  R  R  F  G  V  P  V  I  A
1081 AAGCAACAGC AGTGTACAAG GTGTATGAGT ATGCACGGCG CTTTGGTGTT CCGGTCATTG
     TTCGTTGTCG TCACATGTTC CACATACTCA TACGTGCCGC GAAACCACAA GGCCAGTAAC
+3   A  D  G  G  I  Q  N  V  G  H  I  A  K  A  L  A  L  G  A  S  T
1141 CTGATGGAGG AATCCAAAAT GTGGGTCATA TTGCGAAAGC CTTGGCCCTT GGGGCCTCCA
     GACTACCTCC TTAGGTTTTA CACCCAGTAT AACGCTTTCG GAACCGGGAA CCCCGGAGGT
+3   T  V  M  M  G  S  L  L  A  A  T  T  E  A  P  G  E  Y  F  F  S
1201 CAGTCATGAT GGGCTCTCTC CTGGCTGCCA CCACTGAGGC CCCTGGTGAA TACTTCTTTT
     GTCAGTACTA CCCGAGAGAG GACCGACGGT GGTGACTCCG GGGACCACTT ATGAAGAAAA
+3   S  D  G  I  R  L  K  K  Y  R  G  M  G  S  L  D  A  M  D  K  H
1261 CCGATGGGAT CCGGCTAAAG AAATATCGCG GTATGGGTTC TCTCGATGCC ATGGACAAGC
     GGCTACCCTA GGCCGATTTC TTTATAGCGC CATACCCAAG AGAGCTACGG TACCTGTTCG
+3   H  L  S  S  Q  N  R  Y  F  S  E  A  D  K  I  K  V  A  Q  G  V
1321 ACCTCAGCAG CCAGAACAGA TATTTCAGTG AAGCTGACAA AATCAAAGTG GCCCAGGGAG
     TGGAGTCGTC GGTCTTGTCT ATAAAGTCAC TTCGACTGTT TTAGTTTCAC CGGGTCCCTC
+3   V  S  G  A  V  Q  D  K  G  S  I  H  K  F  V  P  Y  L  I  A  G
1381 TGTCTGGTGC TGTGCAGGAC AAAGGGTCAA TCCACAAATT TGTCCCTTAC CTGATTGCTG
     ACAGACCACG ACACGTCCTG TTTCCCAGTT AGGTGTTTAA ACAGGGAATG GACTAACGAC
+3   G  I  Q  H  S  C  Q  D  I  G  A  K  S  L  T  Q  V  R  A  M  M
1441 GCATCCAACA CTCATGCCAG GACATTGGTG CCAAGAGCTT GACCCAAGTC CGAGCCATGA
     CGTAGGTTGT GAGTACGGTC CTGTAACCAC GGTTCTCGAA CTGGGTTCAG GCTCGGTACT
+3   M  Y  S  G  E  L  K  F  E  K  R  T  S  S  A  Q  V  E  G  G  V
1501 TGTACTCTGG GGAGCTTAAG TTTGAGAAGA GAACGTCCTC AGCCCAGGTG GAAGGTGGCG
     ACATGAGACC CCTCGAATTC AAACTCTTCT CTTGCAGGAG TCGGGTCCAC CTTCCACCGC
+3   V  H  S  L  H  S  Y  E  K  R  L  F  *
1561 TCCATAGCCT CCATTCGTAT GAGAAGCGGC TTTTCTGATC TAGCTCGACA TGATAAGATA
     AGGTATCGGA GGTAAGCATA CTCTTCGCCG AAAAGACTAG ATCGAGCTGT ACTATTCTAT
1621 CATTGATGAG TTTGGACAAA CCACAACTAG AATGCAGTGA AAAAAATGCT TTATTTGTGA
     GTAACTACTC AAACCTGTTT GGTGTTGATC TTACGTCACT TTTTTTACGA AATAAACACT
1681 AATTTGTGAT GCTATTGCTT TATTTGTGAA ATTTGTGATG CTATTGCTTT ATTTGTAACC
     TTAAACACTA CGATAACGAA ATAAACACTT TAAACACTAC GATAACGAAA TAAACATTGG
1741 ATTATAAGCT GCAATAAACA AGTTAACAAC AACAATTGCA TTCATTTTAT GTTTCAGGTT
     TAATATTCGA CGTTATTTGT TCAATTGTTG TTGTTAACGT AAGTAAAATA CAAAGTCCAA
1801 CAGGGGGAGG TGTGGGAGGT TTTTTAAAGC AAGTAAAACC TCTACAAATG TGGTAGATCA
     GTCCCCCTCC ACACCCTCCA AAAAATTTCG TTCATTTTGG AGATGTTTAC ACCATCTAGT
1861 TTTAAATGTT AGCGAAGAAC ATGTGAGCAA AAGGCCAGCA AAAGGCCAGG AACCGTAAAA
     AAATTTACAA TCGCTTCTTG TACACTCGTT TTCCGGTCGT TTTCCGGTCC TTGGCATTTT
1921 AGGCCGCGTT GCTGGCGTTT TTCCATAGGC TCCGCCCCCC TGACGAGCAT CACAAAAATC
     TCCGGCGCAA CGACCGCAAA AAGGTATCCG AGGCGGGGGG ACTGCTCGTA GTGTTTTTAG
1981 GACGCTCAAG TCAGAGGTGG CGAAACCCGA CAGGACTATA AAGATACCAG GCGTTTCCCC
     CTGCGAGTTC AGTCTCCACC GCTTTGGGCT GTCCTGATAT TTCTATGGTC CGCAAAGGGG
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FIG 1B

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2041  CTGGAAGCTC CCTCGTGCGC TCTCCTGTTC CGACCCTGCC GCTTACCGGA TACCTGTCCG
      GACCTTCGAG GGAGCACGCG AGAGGACAAG GCTGGGACGG CGAATGGCCT ATGGACAGGC
2101  CCTTTCTCCC TTCGGGAAGC GTGGCGCTTT CTCAATGCTC ACGCTGTAGG TATCTCAGTT
      GGAAAGAGGG AAGCCCTTCG CACCGCGAAA GAGTTACGAG TGCGACATCC ATAGAGTCAA
2161  CGGTGTAGGT CGTTCGCTCC AAGCTGGGCT GTGTGCACGA ACCCCCCGTT CAGCCCGACC
      GCCACATCCA GCAAGCGAGG TTCGACCCGA CACACGTGCT TGGGGGGCAA GTCGGGCTGG
2221  GCTGCGCCTT ATCCGGTAAC TATCGTCTTG AGTCCAACCC GGTAAGACAC GACTTATCGC
      CGACGCGGAA TAGGCCATTG ATAGCAGAAC TCAGGTTGGG CCATTCTGTG CTGAATAGCG
2281  CACTGGCAGC AGCCACTGGT AACAGGATTA GCAGAGCGAG GTATGTAGGC GGTGCTACAG
      GTGACCGTCG TCGGTGACCA TTGTCCTAAT CGTCTCGCTC CATACATCCG CCACGATGTC
2341  AGTTCTTGAA GTGGTGGCCT AACTACGGCT ACACTAGAAG AACAGTATTT GGTATCTGCG
      TCAAGAACTT CACCACCGGA TTGATGCCGA TGTGATCTTC TTGTCATAAA CCATAGACGC
2401  CTCTGCTGAA GCCAGTTACC TTCGGAAAAA GAGTTGGTAG CTCTTGATCC GGCAAACAAA
      GAGACGACTT CGGTCAATGG AAGCCTTTTT CTCAACCATC GAGAACTAGG CCGTTTGTTT
2461  CCACCGCTGG TAGCGGTGGT TTTTTTGTTT GCAAGCAGCA GATTACGCGC AGAAAAAAAG
      GGTGGCGACC ATCGCCACCA AAAAAACAAA CGTTCGTCGT CTAATGCGCG TCTTTTTTTC
2521  GATCTCAAGA AGATCCTTTG ATCTTTTCTA CGGGGTCTGA CGCTCAGTGG AACGAAAACT
      CTAGAGTTCT TCTAGGAAAC TAGAAAAGAT GCCCCAGACT GCGAGTCACC TTGCTTTTGA
2581  CACGTTAAGG GATTTTGGTC ATGGCTAGTT AATTAAGCTG CAATAAACAA TCATTATTTT
      GTGCAATTCC CTAAAACCAG TACCGATCAA TTAATTCGAC GTTATTTGTT AGTAATAAAA
2641  CATTGGATCT GTGTGTTGGT TTTTTGTGTG GGCTTGGGGG AGGGGGAGGC CAGAATGACT
      GTAACCTAGA CACACAACCA AAAAACACAC CCGAACCCCC TCCCCCTCCG GTCTTACTGA
2701  CCAAGAGCTA CAGGAAGGCA GGTCAGAGAC CCCACTGGAC AAACAGTGGC TGGACTCTGC
      GGTTCTCGAT GTCCTTCCGT CCAGTCTCTG GGGTGACCTG TTTGTCACCG ACCTGAGACG
2761  ACCATAACAC ACAATCAACA GGGGAGTGAG CTGGATCGAG CTAGAGTCCG TTACATAACT
      TGGTATTGTG TGTTAGTTGT CCCCTCACTC GACCTAGCTC GATCTCAGGC AATGTATTGA
2821  TACGGTAAAT GGCCCGCCTG GCTGACCGCC CAACGACCCC CGCCCATTGA CGTCAATAAT
      ATGCCATTTA CCGGGCGGAC CGACTGGCGG GTTGCTGGGG GCGGGTAACT GCAGTTATTA
2881  GACGTATGTT CCCATAGTAA CGCCAATAGG GACTTTCCAT TGACGTCAAT GGGTGGAGTA
      CTGCATACAA GGGTATCATT GCGGTTATCC CTGAAAGGTA ACTGCAGTTA CCCACCTCAT
2941  TTTACGGTAA ACTGCCCACT TGGCAGTACA TCAAGTGTAT CATATGCCAA GTACGCCCCC
      AAATGCCATT TGACGGGTGA ACCGTCATGT AGTTCACATA GTATACGGTT CATGCGGGGG
3001  TATTGACGTC AATGACGGTA AATGGCCCGC CTGGCATTAT GCCCAGTACA TGACCTTATG
      ATAACTGCAG TTACTGCCAT TTACCGGGCG GACCGTAATA CGGGTCATGT ACTGGAATAC
3061  GGACTTTCCT ACTTGGCAGT ACATCTACGT ATTAGTCATC GCTATTACCA TGGTGATGCG
      CCTGAAAGGA TGAACCGTCA TGTAGATGCA TAATCAGTAG CGATAATGGT ACCACTACGC
3121  GTTTTGGCAG TACATCAATG GGCGTGGATA GCGGTTTGAC TCACGGGGAT TTCCAAGTCT
      CAAAACCGTC ATGTAGTTAC CCGCACCTAT CGCCAAACTG AGTGCCCCTA AAGGTTCAGA
3181  CCACCCCATT GACGTCAATG GGAGTTTGTT TTGGCACCAA AATCAACGGG ACTTTCCAAA
      GGTGGGGTAA CTGCAGTTAC CCTCAAACAA AACCGTGGTT TTAGTTGCCC TGAAAGGTTT
3241  ATGTCGTAAC AACTCCGCCC CATTGACGCA AATGGGCGGT AGGCGTGTAC GGTGGGAGGT
      TACAGCATTG TTGAGGCGGG GTAACTGCGT TTACCCGCCA TCCGCACATG CCACCCTCCA
3301  CTATATAAGC AGAGCTCGTT TAGTGAACCG TCAGATCGCC TGGAGACGCC ATCCACGCTG
      GATATATTCG TCTCGAGCAA ATCACTTGGC AGTCTAGCGG ACCTCTGCGG TAGGTGCGAC
3361  TTTTGACCTC CATAGAAGAC ACCGGGACCG ATCCAGCCTC CGCGGCCGGG AACGGTGCAT
      AAAACTGGAG GTATCTTCTG TGGCCCTGGC TAGGTCGGAG GCGCCGGCCC TTGCCACGTA
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FIG 1C

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3421  TGGAACGCGG ATTCCCCGTG CCAAGAGTGA CGTAAGTACC GCCTATAGAG TCTATAGGCC
      ACCTTGCGCC TAAGGGGCAC GGTTCTCACT GCATTCATGG CGGATATCTC AGATATCCGG
3481  CACCCCCTTG GCTTCTTATG CATGCTATAC TGTTTTTGGC TTGGGGTCTA TACACCCCCG
      GTGGGGGAAC CGAAGAATAC GTACGATATG ACAAAAACCG AACCCCAGAT ATGTGGGGGC
3541  CTTCCTCATG TTATAGGTGA TGGTATAGCT TAGCCTATAG GTGTGGGTTA TTGACCATTA
      GAAGGAGTAC AATATCCACT ACCATATCGA ATCGGATATC CACACCCAAT AACTGGTAAT
3601  TTGACCACTC CCCTATTGGT GACGATACTT TCCATTACTA ATCCATAACA TGGCTCTTTG
      AACTGGTGAG GGGATAACCA CTGCTATGAA AGGTAATGAT TAGGTATTGT ACCGAGAAAC
3661  CCACAACTCT CTTTATTGGC TATATGCCAA TACACTGTCC TTCAGAGACT GACACGGACT
      GGTGTTGAGA GAAATAACCG ATATACGGTT ATGTGACAGG AAGTCTCTGA CTGTGCCTGA
3721  CTGTATTTTT ACAGGATGGG GTCTCATTTA TTATTTACAA ATTCACATAT ACAACACCAC
      GACATAAAAA TGTCCTACCC CAGAGTAAAT AATAAATGTT TAAGTGTATA TGTTGTGGTG
3781  CGTCCCCAGT GCCCGCAGTT TTTATTAAAC ATAACGTGGG ATCTCCACGC GAATCTCGGG
      GCAGGGGTCA CGGGCGTCAA AAATAATTTG TATTGCACCC TAGAGGTGCG CTTAGAGCCC
3841  TACGTGTTCC GGACATGGGC TCTTCTCCGG TAGCGGCGGA GCTTCTACAT CCGAGCCCTG
      ATGCACAAGG CCTGTACCCG AGAAGAGGCC ATCGCCGCCT CGAAGATGTA GGCTCGGGAC
3901  CTCCCATGCC TCCAGCGACT CATGGTCGCT CGGCAGCTCC TTGCTCCTAA CAGTGGAGGC
      GAGGGTACGG AGGTCGCTGA GTACCAGCGA GCCGTCGAGG AACGAGGATT GTCACCTCCG
3961  CAGACTTAGG CACAGCACGA TGCCCACCAC CACCAGTGTG CCGCACAAGG CCGTGGCGGT
      GTCTGAATCC GTGTCGTGCT ACGGGTGGTG GTGGTCACAC GGCGTGTTCC GGCACCGCCA
4021  AGGGTATGTG TCTGAAAATG AGCTCGGGGA GCGGGCTTGC ACCGCTGACG CATTTGGAAG
      TCCCATACAC AGACTTTTAC TCGAGCCCCT CGCCCGAACG TGGCGACTGC GTAAACCTTC
4081  ACTTAAGGCA GCGGCAGAAG AAGATGCAGG CAGCTGAGTT GTTGTGTTCT GATAAGAGTC
      TGAATTCCGT CGCCGTCTTC TTCTACGTCC GTCGACTCAA CAACACAAGA CTATTCTCAG
4141  AGAGGTAACT CCCGTTGCGG TGCTGTTAAC GGTGGAGGGC AGTGTAGTCT GAGCAGTACT
      TCTCCATTGA GGGCAACGCC ACGACAATTG CCACCTCCCG TCACATCAGA CTCGTCATGA
4201  CGTTGCTGCC GCGCGCGCCA CCAGACATAA TAGCTGACAG ACTAACAGAC TGTTCCTTTC
      GCAACGACGG CGCGCGCGGT GGTCTGTATT ATCGACTGTC TGATTGTCTG ACAAGGAAAG
                                        MCS
4261  CATGGGTCTT TTCTGCAGTC ACCCGCGGGA TCCTTCGAAC GTAGCTCTAG ATTGAGTCGA
      GTACCCAGAA AAGACGTCAG TGGGCCCCCT AGGAAGCTTG CATCGAGATC TAACTCAGCT
4321  CGTTACTGGC CGAAGCCGCT TGGAATAAGG CCGGTGTGCG TTTGTCTATA TGTTATTTTC
      GCAATGACCG GCTTCGGCGA ACCTTATTCC GGCCACACGC AAACAGATAT ACAATAAAAG
4381  CACCATATTG CCGTCTTTTG GCAATGTGAG GGCCCGGAAA CCTGGCCCTG TCTTCTTGAC
      GTGGTATAAC GGCAGAAAAC CGTTACACTC CCGGGCCTTT GGACCGGGAC AGAAGAACTG
4441  GAGCATTCCT AGGGGTCTTT CCCCTCTCGC CAAAGGAATG CAAGGTCTGT TGAATGTCGT
      CTCGTAAGGA TCCCCAGAAA GGGGAGAGCG GTTTCCTTAC GTTCCAGACA ACTTACAGCA
4501  GAAGGAAGCA GTTCCTCTGG AAGCTTCTTG AAGACAAACA ACGTCTGTAG CGACCCTTTG
      CTTCCTTCGT CAAGGAGACC TTCGAAGAAC TTCTGTTTGT TGCAGACATC GCTGGGAAAC
4561  CAGGCAGCGG AACCCCCCAC CTGGCGACAG GTGCCTCTGC GGCCAAAAGC CACGTGTATA
      GTCCGTCGCC TTGGGGGGTG GACCGCTGTC CACGGAGACG CCGGTTTTCG GTGCACATAT
4621  AGATACACCT GCAAAGGCGG CACAACCCCA GTGCCACGTT GTGAGTTGGA TAGTTGTGGA
      TCTATGTGGA CGTTTCCGCC GTGTTGGGGT CACGGTGCAA CACTCAACCT ATCAACACCT
4681  AAGAGTCAAA TGGCTCTCCT CAAGCGTATT CAACAAGGGG CTGAAGGATG CCCAGAAGGT
      TTCTCAGTTT ACCGAGAGGA GTTCGCATAA GTTGTTCCCC GACTTCCTAC GGGTCTTCCA
4741  ACCCCATTGT ATGGGATCTG ATCTGGGGCC TCGGTGCACA TGCTTTACAT GTGTTTAGTC
      TGGGGTAACA TACCCTAGAC TAGACCCCGG AGCCACGTGT ACGAAATGTA CACAAATCAG
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FIG 1D

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4801  GAGGTTAAAA AAACGTCTAG GCCCCCCGAA CCACGGGGAC GTGGTTTTCC TTTGAAAAAC
      CTCCAATTTT TTTGCAGATC CGGGGGGCTT GGTGCCCCTG CACCAAAAGG AAACTTTTTG
4861  ACGATAATAC CATGGGTAAG TGATATCTAC TAGTTGTGAC CGGCGCCTAG TGTTGACAAT
      TGCTATTATG GTACCCATTC ACTATAGATG ATCAACACTG GCCGCGGATC ACAACTGTTA
4921  TAATCATCGG CATAGTATAT CGGCATAGTA TAATACGACT CACTATAGGA GGGCCACCAT
      ATTAGTAGCC GTATCATATA GCCGTATCAT ATTATGCTGA GTGATATCCT CCCGGTGGTA
4981  GTCGACTACT AACCTTCTTC TCTTTCCTAC AGCTGAGATC ACCGGTAGGA GGGCCATCAT
      CAGCTGATGA TTGGAAGAAG AGAAAGGATG TCGACTCTAG TGGCCATCCT CCCGGTAGTA
5041  GAAAAAGCCT GAACTCACCG CGACGTCTGT CGCGAAGTTT CTGATCGAAA AGTTCGACAG
      CTTTTTCGGA CTTGAGTGGC GCTGCAGACA GCGCTTCAAA GACTAGCTTT TCAAGCTGTC
5101  CGTCTCCGAC CTGATGCAGC TCTCGGAGGG CGAAGAATCT CGTGCTTTCA GCTTCGATGT
      GCAGAGGCTG GACTACGTCG AGAGCCTCCC GCTTCTTAGA GCACGAAAGT CGAAGCTACA
5161  AGGAGGGCGT GGATATGTCC TGCGGGTAAA TAGCTGCGCC GATGGTTTCT ACAAAGATCG
      TCCTCCCGCA CCTATACAGG ACGCCCATTT ATCGACGCGG CTACCAAAGA TGTTTCTAGC
5221  TTATGTTTAT CGGCACTTTG CATCGGCCGC GCTCCCGATT CCGGAAGTGC TTGACATTGG
      AATACAAATA GCCGTGAAAC GTAGCCGGCG CGAGGGCTAA GGCCTTCACG AACTGTAACC
5281  GGAATTCAGC GAGAGCCTGA CCTATTGCAT CTCCCGCCGT GCACAGGGTG TCACGTTGCA
      CCTTAAGTCG CTCTCGGACT GGATAACGTA GAGGGCGGCA CGTGTCCCAC AGTGCAACGT
5341  AGACCTGCCT GAAACCGAAC TGCCCCGCTGT TCTGCAACCC GTCGCGGAGC TCATGGATGC
      TCTGGACGGA CTTTGGCTTG ACGGGCGACA AGACGTTGGG CAGCGCCTCG AGTACCTACG
5401  GATCGCTGCG GCCGATCTTA GCCAGACGAG CGGGTTCGGC CCATTCGGAC CGCAAGGAAT
      CTAGCGACGC CGGCTAGAAT CGGTCTGCTC GCCCAAGCCG GGTAAGCCTG GCGTTCCTTA
5461  CGGTCAATAC ACTACATGGC GTGATTTCAT ATGCGCGATT GCTGATCCCC ATGTGTATCA
      GCCAGTTATG TGATGTACCG CACTAAAGTA TACGCGCTAA CGACTAGGGG TACACATAGT
5521  CTGGCAAACT GTGATGGACG ACACCGTCAG TGCGTCCGTC GCGCAGGCTC TCGATGAGCT
      GACCGTTTGA CACTACCTGC TGTGGCAGTC ACGCAGGCAG CGCGTCCGAG AGCTACTCGA
5581  GATGCTTTGG GCCGAGGACT GCCCCGAAGT CCGGCACCTC GTGCACGCGG ATTTCGGCTC
      CTACGAAACC CGGCTCCTGA CGGGGCTTCA GGCCGTGGAG CACGTGCGCC TAAAGCCGAG
5641  CAACAATGTC CTGACGGACA ATGGCCGCAT AACAGCGGTC ATTGACTGGA GCGAGGCGAT
      GTTGTTACAG GACTGCCTGT TACCGGCGTA TTGTCGCCAG TAACTGACCT CGCTCCGCTA
5701  GTTCGGGGAT TCCCAATACG AGGTCGCCAA CATCTTCTTC TGGAGGCCGT GGTTGGCTTG
      CAAGCCCCTA AGGGTTATGC TCCAGCGGTT GTAGAAGAAG ACCTCCGGCA CCAACCGAAC
5761  TATGGAGCAG CAGACGCGCT ACTTCGAGCG GAGGCATCCG GAGCTTGCAG GATCGCCGCG
      ATACCTCGTC GTCTGCGCGA TGAAGCTCGC CTCCGTAGGC CTCGAACGTC CTAGCGGCGC
5821  GCTCCGGGCG TATATGCTCC GCATTGGTCT TGACCAACTC TATCAGAGCT TGGTTGACGG
      CGAGGCCCGC ATATACGAGG CGTAACCAGA ACTGGTTGAG ATAGTCTCGA ACCAACTGCC
5881  CAATTTCGAT GATGCAGCTT GGGCGCAGGG TCGATGCGAC GCAATCGTCC GATCCGGAGC
      GTTAAAGCTA CTACGTCGAA CCCGCGTCCC AGCTACGCTG CGTTAGCAGG CTAGGCCTCG
5941  CGGGACTGTC GGGCGTACAC AAATCGCCCG CAGAAGCGCG GCCGTCTGGA CCGATGGCTG
      GCCCTGACAG CCCGCATGTG TTTAGCGGGC GTCTTCGCGC CGGCAGACCT GGCTACCGAC
6001  TGTAGAAGTC GCGTCTGCGT TCGACCAGGC TGCGCGTTCT CGCGGCCATA GCAACCGACG
      ACATCTTCAG CGCAGACGCA AGCTGGTCCG ACGCGCAAGA GCGCCGGTAT CGTTGGCTGC
6061  TACGGCGTTG CGCCCTCGCC GGCAGCAAGA AGCCACGGAA GTCCGCCCGG AGCAGAAAAT
      ATGCCGCAAC GCGGGAGCGG CCGTCGTTCT TCGGTGCCTT CAGGCGGGCC TCGTCTTTTA
6121  GCCCACGCTA CTGCGGGTTT ATATAGACGG TCCCCACGGG ATGGGGAAAA CCACCACCAC
      CGGGTGCGAT GACGCCCAAA TATATCTGCC AGGGGTGCCC TACCCCTTTT GGTGGTGGTG
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FIG 1E

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6181   GCAACTGCTG GTGGCCCTGG GTTCGCGCGA CGATATCGTC TACGTACCCG AGCCGATGAC
       CGTTGACGAC CACCGGGACC CAAGCGCGCT GCTATAGCAG ATGCATGGGC TCGGCTACTG
6241   TTACTGGCGG GTGCTGGGGG CTTCCGAGAC AATCGCGAAC ATCTACACCA CACAACACCG
       AATGACCGCC CACGACCCCC GAAGGCTCTG TTAGCGCTTG TAGATGTGGT GTGTTGTGGC
6301   CCTCGACCAG GGTGAGATAT CGGCCGGGGA CGCGGCGGTG GTAATGACAA GCGCCCAGAT
       GGAGCTGGTC CCACTCTATA GCCGGCCCCT GCGCCGCCAC CATTACTGTT CGCGGGTCTA
6361   AACAATGGGC ATGCCTTATG CCGTGACCGA CGCCGTTCTG GCTCCTCATA TCGGGGGGGA
       TTGTTACCCG TACGGAATAC GGCACTGGCT GCGGCAAGAC CGAGGAGTAT AGCCCCCCCT
6421   GGCTGGGAGC TCACATGCCC CGCCCCCGGC CCTCACCCTC ATCTTCGACC GCCATCCCAT
       CCGACCCTCG AGTGTACGGG GCGGGGGCCG GGAGTGGGAG TAGAAGCTGG CGGTAGGGTA
6481   CGCCGCCCTC CTGTGCTACC CGGCCGCGCG GTACCTTATG GGCAGCATGA CCCCCCAGGC
       GCGGCGGGAG GACACGATGG GCCGGCGCGC CATGGAATAC CCGTCGTACT GGGGGGTCCG
6541   CGTGCTGGCG TTCGTGGCCC TCATCCCGCC GACCTTGCCC GGCACCAACA TCGTGCTTGG
       GCACGACCGC AAGCACCGGG AGTAGGGCGG CTGGAACGGG CCGTGGTTGT AGCACGAACC
6601   GGCCCTTCCG GAGGACAGAC ACATCGACCG CCTGGCCAAA CGCCAGCGCC CCGGCGAGCG
       CCGGGAAGGC CTCCTGTCTG TGTAGCTGGC GGACCGGTTT GCGGTCGCGG GGCCGCTCGC
6661   GCTGGACCTG GCTATGCTGG CTGCGATTCG CCGCGTTTAC GGGCTACTTG CCAATACGGT
       CGACCTGGAC CGATACGACC GACGCTAAGC GGCGCAAATG CCCGATGAAC GGTTATGCCA
6721   GCGGTATCTG CAGTGCGGCG GGTCGTGGCG GGAGGACTGG GGACAGCTTT CGGGGACGGC
       CGCCATAGAC GTCACGCCGC CCAGCACCGC CCTCCTGACC CCTGTCGAAA GCCCCTGCCG
6781   CGTGCCGCCC CAGGGTGCCG AGCCCCAGAG CAACGCGGGC CCACGACCCC ATATCGGGGA
       GCACGGCGGG GTCCCACGGC TCGGGGTCTC GTTGCGCCCG GGTGCTGGGG TATAGCCCCT
6841   CACGTTATTT ACCCTGTTTC GGGCCCCCGA GTTGCTGGCC CCCAACGGCG ACCTGTATAA
       GTGCAATAAA TGGGACAAAG CCCGGGGGCT CAACGACCGG GGGTTGCCGC TGGACATATT
6901   CGTGTTTGCC TGGGCCTTGG ACGTCTTGGC CAAACGCCTC CGTTCCATGC ACGTCTTTAT
       GCACAAACGG ACCCGGAACC TGCAGAACCG GTTTGCGGAG GCAAGGTACG TGCAGAAATA
6961   CCTGGATTAC GACCAATCGC CCGCCGGCTG CCGGGACGCC CTGCTGCAAC TTACCTCCGG
       GGACCTAATG CTGGTTAGCG GGCGGCCGAC GGCCCTGCGG GACGACGTTG AATGGAGGCC
7021   GATGGTCCAG ACCCACGTCA CCACCCCCGG CTCCATACCG ACGATATGCG ACCTGGCGCG
       CTACCAGGTC TGGGTGCAGT GGTGGGGGCC GAGGTATGGC TGCTATACGC TGGACCGCGC
7081   CACGTTTGCC CGGGAGATGG GGGAGGCTAA CTGAGTCGAG AATTCGCTAG AGGGCCCTAT
       GTGCAAACGG GCCCTCTACC CCCTCCGATT GACTCAGCTC TTAAGCGATC TCCCGGGATA
7141   TCTATAGTGT CACCTAAATG CTAGAGCTCG CTGATCAGCC TCGACTGTGC CTTCTAGTTG
       AGATATCACA GTGGATTTAC GATCTCGAGC GACTAGTCGG AGCTGACACG GAAGATCAAC
7201   CCAGCCATCT GTTGTTTGCC CCTCCCCCGT GCCTTCCTTG ACCCTGGAAG GTGCCACTCC
       GGTCGGTAGA CAACAAACGG GGAGGGGGCA CGGAAGGAAC TGGGACCTTC CACGGTGAGG
7261   CACTGTCCTT TCCTAATAAA ATGAGGAAAT TGCATCGCAT TGTCTGAGTA GGTGTCATTC
       GTGACAGGAA AGGATTATTT TACTCCTTTA ACGTAGCGTA ACAGACTCAT CCACAGTAAG
7321   TATTCTGGGG GGTGGGGTGG GGCAGGACAG CAAGGGGGAG GATTGGGAAG ACAATAGCAG
       ATAAGACCCC CCACCCCACC CCGTCCTGTC GTTCCCCCTC CTAACCCTTC TGTTATCGTC
7381   GCATGCGCAG GGCCCAATTG CTCGAGCGGC CGCAATAAAA TATCTTTATT TTCATTACAT
       CGTACGCGTC CCGGGTTAAC GAGCTCGCCG GCGTTATTTT ATAGAAATAA AAGTAATGTA
7441   CTGTGTGTTG GTTTTTTGTG TGAATCGTAA CTAACATACG CTCTCCATCA AAACAAAACG
       GACACACAAC CAAAAAACAC ACTTAGCATT GATTGTATGC GAGAGGTAGT TTTGTTTTGC
7501   AAACAAAACA AACTAGCAAA ATAGGCTGTC CCCAGTGCAA GTGCAGGTGC CAGAACATTT
       TTTGTTTTGT TTGATCGTTT TATCCGACAG GGGTCACGTT CACGTCCACG GTCTTGTAAA
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FIG 1F

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7561  CTCTATCGAA GGATCTGCGA TCGCTCCGGT GCCCGTCAGT GGGCAGAGCG CACATCGCCC
      GAGATAGCTT CCTAGACGCT AGCGAGGCCA CGGGCAGTCA CCCGTCTCGC GTGTAGCGGG
7621  ACAGTCCCCG AGAAGTTGGG GGGAGGGGTC GGCAATTGAA CCGGTGCCTA GAGAAGGTGG
      TGTCAGGGGC TCTTCAACCC CCCTCCCCAG CCGTTAACTT GGCCACGGAT CTCTTCCACC
7681  CGCGGGGTAA ACTGGGAAAG TGATGTCGTG TACTGGCTCC GCCTTTTTCC CGAGGGTGGG
      GCGCCCCATT TGACCCTTTC ACTACAGCAC ATGACCGAGG CGGAAAAAGG GCTCCCACCC
7741  GGAGAACCGT ATATAAGTGC AGTAGTCGCC GTGAACGTTC TTTTTCGCAA CGGGTTTGCC
      CCTCTTGGCA TATATTCACG TCATCAGCGG CACTTGCAAG AAAAAGCGTT GCCCAAACGG
7801  GCCAGAACAC AGCTGAAGCT TCGAGGGGCT CGCATCTCTC CTTCACGCGC CCGCCGCCCT
      CGGTCTTGTG TCGACTTCGA AGCTCCCCGA GCGTAGAGAG GAAGTGCGCG GGCGGCGGGA
7861  ACCTGAGGCC GCCATCCACG CCGGTTGAGT CGCGTTCTGC CGCCTCCCGC CTGTGGTGCC
      TGGACTCCGG CGGTAGGTGC GGCCAACTCA GCGCAAGACG GCGGAGGGCG GACACCACGG
7921  TCCTGAACTG CGTCCGCCGT CTAGGTAAGT TTAAAGCTCA GGTCGAGACC GGGCCTTTGT
      AGGACTTGAC GCAGGCGGCA GATCCATTCA AATTTCGAGT CCAGCTCTGG CCCGGAAACA
7981  CCGGCGCTCC CTTGGAGCCT ACCTAGACTC AGCCGGCTCT CCACGCTTTG CCTGACCCTG
      GGCCGCGAGG GAACCTCGGA TGGATCTGAG TCGGCCGAGA GGTGCGAAAC GGACTGGGAC
8041  CTTGCTCAAC TCTACGTCTT TGTTTCGTTT TCTGTTCTGC GCCGTTACAG ATCCAAGCTG
      GAACGAGTTG AGATGCAGAA ACAAAGCAAA AGACAAGACG CGGCAATGTC TAGGTTCGAC
8101  TGACCGGCGC CTACGTAAGT GATATCTACT AGATTTATCA AAAAGAGTGT TGACTTGTGA
      ACTGGCCGCG GATGCATTCA CTATAGATGA TCTAAATAGT TTTTCTCACA ACTGAACACT
8161  GCGCTCACAA TTGATACTTA GATTCATCGA GAGGGACACG TCGACTACTA ACCTTCTTCT
      CGCGAGTGTT AACTATGAAT CTAAGTAGCT CTCCCTGTGC AGCTGATGAT TGGAAGAAGA
8221  CTTTCCTACA GCTGAGAT
      GAAAGGATGT CGACTCTA
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FIG 1G